

Sub D1
cont.
B1

directly exposing said conductive material to a plasma to reduce the ability of the conductive material to associate with oxygen prior to forming another conductive material on the conductive material.

Please add new claims 76-88 as follows:

Sub D2

--76. (New) A method of passivating a conductive layer, comprising:
providing a tungsten nitride layer;
providing a polysilicon layer on the tungsten nitride layer; and
directly exposing the tungsten nitride layer to a plasma to passivate the tungsten nitride layer prior to formation of the polysilicon layer on the tungsten nitride layer.

77. (New) The method in claim 76, wherein exposing the tungsten nitride layer to a plasma causes a reduction in an ability of the tungsten nitride layer to associate with oxygen.

B2 78. (New) The method of claim 76 wherein exposing the tungsten nitride layer to a plasma comprises exposing the tungsten nitride layer to a plasma selected from a group consisting of an N₂/H₂ plasma, an N₂ plasma, an H₂ plasma, an NH₃ plasma, and mixtures thereof.

79. (New) The method of claim 78 wherein exposing the tungsten nitride layer to a plasma containing N₂ and H₂ comprises exposing the tungsten nitride layer to an N₂/H₂ plasma under parameters including:

a temperature ranging from about 150 to about 600 degrees Celsius;

an H₂ gas flow of about 50 to about 2000 sccm;

an N₂ gas flow of about 5 to about 1000 sccm;

an Ar gas flow of about 200 to about 2000 sccm;

an RF power ranging from about 50 to about 1000W;
 a pressure ranging from about 1 millitorr to about 10 torr; and
 a process time ranging from about 10 seconds to about 240
 seconds.

80. (New) The method in claim 78 wherein exposing the tungsten nitride layer to a plasma containing nitrogen comprises exposing the layer to an NH₃ plasma under parameters including:

a temperature ranging from about 150 to about 600 degrees
 Celsius;

an NH₃ gas flow of about 5 to about 1000 sccm;

an Ar gas flow of about 200 to about 2000 sccm;

an RF power ranging from about 50 to about 1000W;

a pressure ranging from about 1 millitorr to about 10 torr; and

a process time no greater than about 500 seconds.

cont.

81. (New) A method of passivating a conductive layer, comprising:
 providing a first conductive plug;
 providing a first conductive layer on the plug;
 directly exposing the first conductive layer to a plasma to passivate the
 first conductive layer; and
 after exposing the first conductive layer to a plasma to passivate the first
 conductive layer, forming a second conductive layer on the first conductive layer.

82. (New) The method of claim 81 wherein the plug comprises at least one of
 polysilicon, tungsten, copper, and aluminum.

83. (New) The method of claim 81 wherein the first conductive layer
 comprises tungsten nitride.

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84. (New) The method of claim 81 wherein the second conductive layer comprises copper.

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85. (New) The method of claim 81 wherein exposing the first conductive layer to a plasma to passivate the first conductive layer reduces an ability of the first conductive layer to associate with oxygen.

86. (New) The method of claim 81 wherein exposing the first conductive layer to a plasma comprises exposing the tungsten nitride layer to a plasma selected from a group consisting of an N_2/H_2 plasma, an N_2 plasma, an H_2 plasma, an NH_3 plasma, and mixtures thereof.

87. (New) The method of claim 86 wherein exposing the tungsten nitride layer to a plasma containing N_2 and H_2 comprises exposing the tungsten nitride layer to an N_2/H_2 plasma under parameters including:

a temperature ranging from about 150 to about 600 degrees

Celsius;

an H_2 gas flow of about 50 to about 2000 sccm;

an N_2 gas flow of about 5 to about 1000 sccm;

an Ar gas flow of about 200 to about 2000 sccm;

an RF power ranging from about 50 to about 1000W;

a pressure ranging from about 1 millitorr to about 10 torr; and

a process time ranging from about 10 seconds to about 240 seconds.

88. (New) The method in claim 86 wherein exposing the tungsten nitride layer to a plasma containing nitrogen comprises exposing the layer to an NH_3 plasma under parameters including: